

NOTES ON THE SUMMER BIRDS OF KENTUCKY AND TENNESSEE.

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IN the course of field work for the Biological Survey during the seasons of 1908 and 1909 I visited a number of localities in Kentucky and Tennessee and made notes on the birds observed. Comparatively little time was spent at each locality, so that the lists are necessarily far from complete, but in view of the very limited amount of published information on the birds of these two States it seems best to place on record the results of my observations.

For the sake of convenience in future reference the lists from each State will be presented separately.

KENTUCKY.

In 1908, two localities in the extreme eastern part of the State were visited, namely: Big Black Mountain on July 24 and Barbourville, August 9-13. Big Black Mountain is in the eastern part of Harlan County, close to the Virginia line. It is a part of the Cumberland Range and is the highest mountain in the State (4100 feet). Barbourville is in Knox County, on the Cumberland River, at an altitude of about 1000 feet.

In 1909, five localities in the central and eastern parts of the State were visited, namely: Rockport, June 23, 24; Hawesville, June 25-28; Mammoth Cave, June 29-July 5; Midway, July 6-11; and Jackson, July 12-14.

The greater part of the State is in the Upper Austral Zone. The Lower Austral Zone is found in the extreme western part in the Mississippi and Ohio bottoms as far east as Paducah. The Transition Zone occupies only the summit of Big Black Mountain above 3000 feet and small isolated areas in the Cumberland Range at somewhat lower altitudes, in shaded ravines having a northern exposure. These narrow tongues of the Transition Zone reach in some places as low as 1600 feet.

List of Birds Observed.

Butorides virescens. GREEN HERON.—Several were seen at Midway, July 6–11.

Oxyechus vociferus. KILLDEER.—At Midway, in July, a flock of twenty or thirty was observed for several days feeding about the wet spots in a tobacco patch.

Colinus virginianus. BOB-WHITE.—Common at Midway and other points in the lowlands; rather scarce in the foothill region, but a few were noted at Barbourville and along Clover Fork at the foot of Big Black Mountain.

Zenaidura macroura carolinensis. MOURNING DOVE.—Common at Midway; a few seen at Hawesville and Mammoth Cave.

Cathartes aura septentrionalis. TURKEY BUZZARD.—Several seen at Hawesville and Mammoth Cave.

Otus asio. SCREECH OWL.—One heard in Barbourville.

Coccyzus americanus. YELLOW-BILLED CUCKOO.—Rather common at Midway; one or two seen at Mammoth Cave.

Dryobates villosus auduboni. SOUTHERN HAIRY WOODPECKER.—Common at Barbourville, where one specimen of this subspecies was taken; one seen at Mammoth Cave.

Dryobates pubescens medianus. DOWNY WOODPECKER.—Several seen and one collected at Barbourville; one seen on Big Black Mountain at 3000 feet, others at Jackson, Midway, and Mammoth Cave.

Melanerpes erythrocephalus. RED-HEADED WOODPECKER.—Common at Midway.

Centurus carolinus. RED-BELLIED WOODPECKER.—One seen at Hawesville, June 25.

Colaptes auratus luteus. NORTHERN FLICKER.—Common at Midway; scarce at Mammoth Cave and Barbourville; one seen at 3000 feet on Big Black Mountain.

Antrostomus vociferus. WHIPPOORWILL.—Several heard singing at Mammoth Cave, June 30.

Chætura pelagica. CHIMNEY SWIFT.—Common at nearly all localities visited.

Archilochus colubris. RUBY-THROATED HUMMINGBIRD.—One seen at 2000 feet at base of Big Black Mountain; several at Barbourville and Mammoth Cave.

Tyrannus tyrannus. KINGBIRD.—A few seen at Barbourville; not observed at other localities.

Myiarchus crinitus. CRESTED FLYCATCHER.—Seen in small numbers at Mammoth Cave, Hawesville, Midway, and Jackson.

Sayornis phœbe. PHEBE.—Numerous at Hawesville, nesting on cliffs; a few seen at Barbourville, Jackson, and Mammoth Cave; two at the summit of Big Black Mountain.

Myiochanes virens. WOOD PEWEE.— Common at Barboursville; a few observed at Jackson and Mammoth Cave, and on Big Black Mountain up to 4000 feet.

Empidonax virescens. ACADIAN FLYCATCHER.— Observed in small numbers at Mammoth Cave, Jackson, Barboursville, and the base of Big Black Mountain (2000 feet).

Otocoris alpestris praticola. PRAIRIE HORNED LARK.— A pair was seen in a public road at Midway, July 9, 1909.

Cyanocitta cristata. BLUE JAY.— Numerous at Rockport; a few seen at Midway, Mammoth Cave, and Barboursville.

Corvus brachyrhynchos. CROW.— Common at Midway; three or four seen at Barboursville. They are not partial to the foothill country.

Agelaius phœniceus. RED-WINGED BLACKBIRD.— Common at Midway, where young able to fly well were seen July 6-11; ten or twelve seen in a small marsh at Barboursville.

Sturnella magna. MEADOWLARK.— Common at Midway and Rockport; ten or fifteen seen in a wet marsh at Barboursville, where they evidently breed.

Icterus spurius. ORCHARD ORIOLE.— A few seen at Rockport, Hawesville, and Midway.

Icterus galbula. BALTIMORE ORIOLE.— A few noted at Barboursville and one at Rockport.

Quiscalus quiscula. PURPLE GRACKLE.— A flock of 10 or 15 birds was seen at Barboursville and a specimen shot from this flock on August 12 proved to be of this form.

Quiscalus quiscula æneus. BRONZED GRACKLE.— Abundant at Midway, July 6-11, gathering in good sized flocks about the cultivated fields and roosting at night in large companies in the shade trees in town; one specimen was taken.

Astragalinus tristis. GOLDFINCH.— Numerous at Barboursville and about the base of Big Black Mountain; seen also at the summit of the mountain and at Jackson.

Poœetes gramineus. VESPER SPARROW.— Several heard singing at Midway, July 6-11.

Ammodramus savannarum australis. GRASSHOPPER SPARROW.— Quite common at Midway and Barboursville; specimen taken at Midway.

Spizella passerina. CHIPPING SPARROW.— Fairly common at most localities in the lowlands and foothills; a small flock seen at the summit of Big Black Mountain.

Spizella pusilla. FIELD SPARROW.— Common, both on the mountains and in the lowlands.

Junco hyemalis carolinensis. CAROLINA JUNCO.— A few seen at the summit of Big Black Mountain (July 24) where they evidently breed; one young specimen taken.

Melospiza melodia. SONG SPARROW.— Abundant at Midway; several noted along the Ohio River at Hawesville, June 25. They apparently do

not occur in the breeding season much farther down the Ohio Valley, as none were found at Mount Vernon, Indiana; nor were any seen in the foothill region about Jackson, Kentucky.

Cardinalis cardinalis. CARDINAL.—Common at all localities in the lowlands; ranges up to at least 2500 feet on Big Black Mountain.

Zamelodia ludoviciana. ROSE-BREADED GROSBEAK.—A full-grown young male was taken, July 24, at 2500 feet on Clover Fork, at base of Big Black Mountain.

Passerina cyanea. INDIGO BIRD.—Common in suitable situations at all localities; ranges to the top of Big Black Mountain.

Spiza americana. BLACK-THROATED BUNTING.—Quite common at Midway, July 6-11, but not seen elsewhere.

Piranga erythromelas. SCARLET TANAGER.—One noted at Rockport and several at Mammoth Cave.

Piranga rubra. SUMMER TANAGER.—A few seen at Barbourville, Jackson, Hawesville, and Mammoth Cave.

Progne subis. PURPLE MARTIN.—Common at Barbourville, Jackson and Midway; a few seen at Rockport and Hawesville.

Hirundo erythrogastra. BARN SWALLOW.—Common at Midway; four or five seen at Barbourville (August 9-13); at Mammoth Cave several pairs were nesting about the hotel buildings.

Stelgidopteryx serripennis. ROUGH-WINGED SWALLOW.—Numerous at Hawesville along the Ohio River.

Vireosylva olivacea. RED-EYED VIREO.—Fairly common both in the lowlands and on the mountains.

Vireosylva gilva. WARBLING VIREO.—One seen and heard singing at Barbourville, August 9.

Lanivireo flavifrons. YELLOW-THROATED VIREO.—Rather common at Barbourville; a few noted at Jackson, Hawesville, and Mammoth Cave.

Lanivireo solitarius alticola. MOUNTAIN SOLITARY VIREO.—Common on Big Black Mountain from about 3400 feet to the summit. Several heard singing freely and two adult males taken.

Vireo griseus. WHITE-EYED VIREO.—One seen at base of Big Black Mountain; others at Barbourville, Jackson, and Hawesville.

Mniotilta varia. BLACK AND WHITE WARBLER.—Common at all altitudes on Big Black Mountain; a few seen at Barbourville, Jackson, and Hawesville.

Helmitheros vermivorus. WORM-EATING WARBLER.—Scarce; one seen at Barbourville, and others at Hawesville and Mammoth Cave.

Compothlypis americana ramalinæ *Ridgway*. WESTERN PARULA WARBLER.—Several heard singing at Jackson and at Mammoth Cave; specimens taken at each place are referable to this form.

Dendroica æstiva. YELLOW WARBLER.—Several seen at Jackson, and on Clover Fork at base of Big Black Mountain.

Dendroica cærulescens cairnsi. CAIRNS'S WARBLER.—Several seen on Big Black Mountain between 3400 and 4000 feet altitude; one young bird just able to fly taken at 4000 feet.

Dendroica cerulea. CERULEAN WARBLER.— One full-grown immature specimen was taken, July 24, at the summit of Big Black Mountain. Heard singing at Jackson, Hawesville, and Mammoth Cave.

Dendroica fusca. BLACKBURNIAN WARBLER.— Common in heavy timber at the summit of Big Black Mountain, July 24; two immature specimens taken.

Dendroica virens. BLACK-THROATED GREEN WARBLER.— Common at the summit of Big Black Mountain, July 24, where two immature specimens were taken. A full-grown immature bird was taken in the foothills at Jackson, July 14, at 1000 feet altitude.

Dendroica discolor. PRAIRIE WARBLER.— One taken at Barbourville August 10.

Seiurus aurocapillus. OVEN-BIRD.— One seen at 3000 feet altitude on Big Black Mountain; heard singing at Hawesville and Mammoth Cave.

Seiurus motacilla. LOUISIANA WATER-THRUSH.— Common along Clover Fork at base of Big Black Mountain; seen up to 3000 feet on the mountain; noted also at Jackson and Mammoth Cave.

Oporornis formosa. KENTUCKY WARBLER.— Fairly common at Mammoth Cave, Hawesville, Jackson, Barbourville, and on Big Black Mountain below 3000 feet.

Geothlypis trichas. MARYLAND YELLOW-THROAT.— Common at Barbourville, where moulting adults and young were taken, August 9-13; several noted on Clover Fork at base of Big Black Mountain; common at Midway and Jackson (specimen); noted at Rockport and Mammoth Cave.

Icteria virens. YELLOW-BREASTED CHAT.— Noted in small numbers at Barbourville, Jackson, Hawesville, and Mammoth Cave. ¹

Wilsonia citrina. HOODED WARBLER.— Several seen on Big Black Mountain between 2000 and 3000 feet altitude; fairly common at Jackson, Hawesville, and Mammoth Cave.

Wilsonia canadensis. CANADIAN WARBLER.— One heard singing, July 24, at 3000 feet on Big Black Mountain. ¹

Setophaga ruticilla. REDSTART.— Several seen between 3000 and 4000 feet on Big Black Mountain; one at Mammoth Cave.

Mimus polyglottos. MOCKINGBIRD.— Fairly common at Midway; a few seen at Hawesville, Mammoth Cave and Rockport.

Dumetella carolinensis. CATBIRD.— Common at Midway and Hawesville; a few seen at Mammoth Cave and Barbourville.

Toxostoma rufum. BROWN THRASHER.— A few seen at Midway and Barbourville.

Thryothorus ludovicianus. CAROLINA WREN.— Common at all localities; several seen at 3750 feet altitude, near the summit of Big Black Mountain.

Thryomanes bewicki. BEWICK'S WREN.— Seen in small numbers at Barbourville, Jackson, Hawesville, Midway, Rockport, and Mammoth Cave.

¹ A specimen was taken the day previous just across the line in Virginia (Big Stone Gap).

Cistothorus stellaris. SHORT-BILLED MARSH WREN.—A few pairs were living in a small marsh at Barboursville, August 9-13; they probably breed there, but no nests were noticed.

Sitta carolinensis. WHITE-BREASTED NUTHATCH.—Several noted on Big Black Mountain between 3000 and 4000 feet altitude; one at Barboursville and one at Mammoth Cave.

Bæolophus bicolor. TUFTED TITMOUSE.—Common at Barboursville; several seen at Mammoth Cave.

Penthestes carolinensis. CAROLINA CHICKADEE.—Several noted at Barboursville and Mammoth Cave; immature specimens taken, July 24, at the summit of Big Black Mountain.

Polioptila cærulea. BLUE-GRAY GNATCATCHER.—Common at Barboursville; a few noted at Mammoth Cave.

Hylocichla mustelina. WOOD THRUSH.—Common at Mammoth Cave and Jackson; one seen at Barboursville; several on Big Black Mountain between 2000 and 3000 feet.

Planesticus migratorius achrusterus. CAROLINIAN ROBIN.—Common at Midway (specimen taken) and Mammoth Cave; one noted at Barboursville; said to nest on the summit of Big Black Mountain, but I saw none.

Sialis sialis. BLUEBIRD.—Fairly common at Barboursville and Mammoth Cave.

TENNESSEE.

The following localities in Tennessee were visited in the summer of 1908:

Briceville, Coal Creek, and Cross Mountain, August 14-19; High Cliff, August 20-22; Soddy, and Walden Ridge west of Soddy, August 25-29; Lawrenceburg, September 12-15.

Cross Mountain (3550 feet) is the highest point on the Cumberland Range in Tennessee, and is situated about three miles north-west of Briceville, on the boundary between Anderson and Campbell counties. High Cliff is in Campbell County, about three miles east of Jellico, at the point where the Clear Fork of the Cumberland emerges from the cañon which it follows through the mountains. The altitude of the valley at High Cliff is 1000 feet, and Pine Mountain at this point reaches an altitude of 2100 feet. Soddy (Rathburn Station) is at the east base of Walden Ridge, about 18 miles northeast of Chattanooga. Walden Ridge is a fairly level plateau varying in altitude from 1500 to 2400 feet, and at this point is about 10 miles wide.

The greater part of eastern Tennessee is included in the Upper Austral Zone. The Transition Zone is found mainly on the mountain summits above 3000 feet and in cool gulches down to 2000 feet. In a few isolated localities (as at High Cliff) the zone appears on steep north slopes as low as 1000 feet. The Lower Austral Zone covers the western part of the State as far east as Lawrence County.

List of Birds Observed.

Butorides virescens. GREEN HERON.—One seen, August 26, on the lower part of Soddy Creek, near the Tennessee River.

Colinus virginianus. BOB-WHITE.—Scarce in the mountains; a few noted at High Cliff and at Coal Creek and one seen on top of Cross Mountain; fairly common on Walden Ridge and at Lawrenceburg.

Bonasa umbellus. RUFFED GROUSE.—Occurs sparingly on Walden Ridge, but through constant persecution has been greatly reduced in numbers during recent years. In the region about Cross Mountain, grouse are now very scarce, though formerly common.

Meleagris gallopavo silvestris. WILD TURKEY.—Occurs in moderate numbers on Walden Ridge, but is fast disappearing, as it is shot at all seasons by the residents. Two men told of killing all but one from a bunch of six or seven the day before I arrived.

Zenaidura macroura carolinensis. MOURNING DOVE.—Fairly common at Lawrenceburg and on Walden Ridge.

Cathartes aura septentrionalis. TURKEY BUZZARD.—Fairly common throughout the State.

Catharista urubu. BLACK VULTURE.—Three or four seen at Lawrenceburg, September 12-15; said to occur on Walden Ridge only in winter.

Falco sparverius. SPARROW HAWK.—A pair was seen on the summit of Cross Mountain; not observed elsewhere.

Otus asio. SCREECH OWL.—One was heard calling at Briceville and another at Lawrenceburg.

Ceryle alcyon. BELTED KINGFISHER.—Several seen at Lawrenceburg.

Dryobates villosus auduboni. SOUTHERN HAIRY WOODPECKER.—Fairly common on Cross Mountain and the surrounding valleys; specimens taken there and one at High Cliff prove to be the southern form.

Dryobates pubescens medianus. DOWNY WOODPECKER.—Two specimens taken at 3400 feet on Cross Mountain; several seen on Walden Ridge.

Phlœotomus pileatus. PILEATED WOODPECKER.—Common on Walden Ridge where I heard six or eight and shot one in a day's walk; a few were noted also on Cross Mountain.

Melanerpes erythrocephalus. RED-HEADED WOODPECKER.—One immature bird seen on the summit of Cross Mountain, August 15.

Colaptes auratus luteus. NORTHERN FLICKER.—Not common; a few noted at High Cliff, Walden Ridge, Lawrenceburg, and Briceville; one specimen taken on the summit of Cross Mountain.

Antrostomus vociferus. WHIP-POOR-WILL.—One heard singing at Briceville, August 14.

Chordeiles virginianus. NIGHTHAWK.—One seen at Briceville, August 14; a flock of 15 or 20 seen near Knoxville, August 23.

Chætura pelagica. CHIMNEY SWIFT.—Rather scarce at Briceville; two or three seen about the summit of Cross Mountain, August 15; common at Lawrenceburg, September 12–15; at Knoxville, on August 23 they were abundant over the city and I had an opportunity to observe their method of going to roost. About 6 P. M. I noticed the swifts all gathered into one immense flock and circling about in the vicinity of the Colonial Hotel. They moved mainly in one direction, but occasionally turned and circled for a few minutes in the opposite direction. They were evidently interested in a large square chimney on a mantel manufactory near the hotel, for this was the center of their constantly narrowing circle, and frequently one or more would dart down and make a feint to enter the chimney, only to dash off again and join the flock. At 6.25 they began to go in, and with the exception of a few intervals of less than 30 seconds, there was a constant stream of swifts entering the chimney for 13 minutes. At 6.38 the last ones went in, and only four or five Purple Martins remained in the air. I estimated the number of swifts at about 5000, but there may have been many more than that. How so many were able to find a resting place in a single chimney remains to me a mystery.

Archilochus colubris. RUBY-THROATED HUMMINGBIRD.—Several seen at Briceville and one at High Cliff.

Tyrannus tyrannus. KINGBIRD.—The only one observed was near Coal Creek, August 19.

Sayornis phœbe. PHŒBE.—A few observed at each locality visited.

Myiochanes virens. WOOD PEWEE.—Common both on the mountains and in the valleys.

Empidonax virescens. ACADIAN FLYCATCHER.—A few noted in the region about Briceville.

Cyanocitta cristata. BLUE JAY.—Common at Lawrenceburg; a few noted at High Cliff and on Walden Ridge.

Corvus corax principalis. NORTHERN RAVEN.—Ravens are reported to occur in small numbers on Walden Ridge, where they live in the wild, rough gulches.

Corvus brachyrhynchus. CROW.—Seen in small numbers at High Cliff, Walden Ridge, and Lawrenceburg.

Sturnella magna argutula. SOUTHERN MEADOWLARK.—Three seen and one taken, September 10, at Fayetteville, where they evidently breed; they are said so occur at Soddy and on Walden Ridge only in winter.

Quiscalus quiscula. PURPLE GRACKLE.—Large flocks were seen at Fayetteville, September 10; one specimen taken here was of this form,

but doubtless *æneus* was well represented also. No Grackles were observed in east Tennessee.

Astragalinus tristis. GOLDFINCH.—Fairly common at Briceville, High Cliff, and Soddy.

Spizella passerina. CHIPPING SPARROW.—Fairly common at High Cliff and Cross Mountain.

Spizella pusilla. FIELD SPARROW.—Common at High Cliff, Cross Mountain, and on Walden Ridge.

Pipilo erythrophthalmus. TOWHEE.—Several noted at the summit of Cross Mountain and on Walden Ridge, at both of which localities it breeds; seen at Lawrenceburg, August 12–15.

Cardinalis cardinalis. CARDINAL.—Fairly common at all localities visited; seen at 2500 feet on Cross Mountain.

Piranga erythromelas. SCARLET TANAGER.—Several noted at about 2000 feet on Cross Mountain, where it breeds.

Piranga rubra. SUMMER TANAGER.—Observed in small numbers at High Cliff, Briceville, Soddy, and Lawrenceburg.

Progne subis. PURPLE MARTIN.—Breeds commonly on Walden Ridge; said to leave for the south about August 1; four or five were seen at Knoxville, August 23, with a large flock of Chimney Swifts.

Vireosylva olivacea. RED-EYED VIREO.—A few noted near Briceville.

Janivireo flavifrons. YELLOW-THROATED VIREO.—Several seen and one taken at the summit of Cross Mountain, August 17; heard singing at High Cliff, August 22 and at Lawrenceburg, September 14.

Vireo griseus. WHITE-EYED VIREO.—A few noted at Coal Creek and High Cliff; heard singing at Lawrenceburg, September 14.

Mniotilta varia. BLACK AND WHITE WARBLER.—Fairly common at all altitudes on Cross Mountain; one seen at High Cliff, August 21.

Helmitheros vermivorus. WORM-EATING WARBLER.—One seen at 3400 feet on Cross Mountain.

Dendroica cærulescens cairnsi. CAIRNS'S WARBLER.—Two males were taken August 15 and 17 at 3400 feet on Cross Mountain; they probably breed on the mountain.

Dendroica pensylvanica. CHESTNUT-SIDED WARBLER.—One specimen taken August 25 on Walden Ridge.

Dendroica virens. BLACK-THROATED GREEN WARBLER.—Six or more were seen at 3400 feet on Cross Mountain; an adult female and immature specimens were taken, August 15 and 17; they undoubtedly breed there. One or two were seen on Walden Ridge, August 27.

Dendroica discolor. PRAIRIE WARBLER.—Two seen and one taken on Walden Ridge, August 27.

Seiurus aurocapillus. OVENBIRD.—Several pairs were seen between 1000 and 3300 feet on Cross Mountain.

Seiurus motacilla. LOUISIANA WATER-THRUSH.—Two or three were seen near Briceville.

Oporornis formosa. KENTUCKY WARBLER.—A few seen at Briceville and Soddy; one taken at 3400 feet on Cross Mountain.

Geothlypis trichas. MARYLAND YELLOW-THROAT.— One specimen taken at Briceville; others noted at High Cliff and Lawrenceburg.

Wilsonia citrina. HOODED WARBLER.— Common on Cross Mountain to 3400 feet; a few noted at High Cliff and in the gulches on Walden Ridge.

Mimus polyglottos. MOCKINGBIRD.— Common at Fayetteville and Lawrenceburg; not observed in eastern Tennessee.

Dumetella carolinensis. CATBIRD.— Fairly common at Briceville, Soddy, and Lawrenceburg.

Toxostoma rufum. BROWN THRASHER.— A few seen at each locality visited.

Thryothorus ludovicianus. CAROLINA WREN.— Common, both in the valleys and up to 3500 feet on Cross Mountain.

Thryomanes bewicki. BEWICK'S WREN.— Observed in small numbers at Briceville, High Cliff, Soddy, and Lawrenceburg.

Sitta carolinensis. WHITE-BREASTED NUTHATCH.— A few seen at High Cliff, Walden Ridge, and Cross Mountain (1000 to 3400 feet).

Bæolophus bicolor. TUFTED TITMOUSE.— Noted in small numbers at each locality visited; fairly common on Cross Mountain up to 3000 feet.

Penthestes carolinensis. CAROLINA CHICKADEE.— Fairly common on Cross Mountain up to 3300 feet; noted at High Cliff, Walden Ridge, and Lawrenceburg.

Poliophtila cærulea. BLUE-GRAY GNATCATCHER.— A few observed at Briceville.

Hylocichla mustelina. WOOD THRUSH.— Observed in small numbers at Briceville, Soddy, and High Cliff.

Planesticus migratorius achrusterus. CAROLINIAN ROBIN.— One or two seen at Lawrenceburg, September 12-15.

Sialia sialis. BLUEBIRD.— Noted in small numbers at High Cliff, Cross Mountain (1000-3500 feet), Walden Ridge, and Lawrenceburg.